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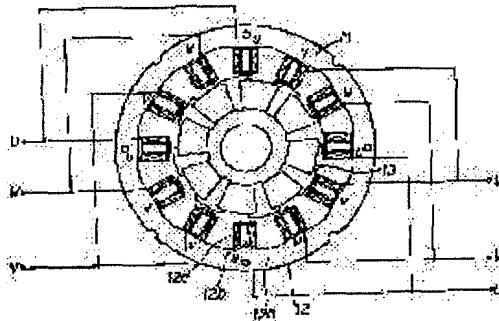
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(54) ROTARY DEVICE

(57)Abstract:

PURPOSE: To increase the surface flux density of magnetic poles for the enhancement of torque and the reduction of manufacturing cost, by forming a rotary device using a stator having a plurality of electromagnets secured in a housing, and a rotor composed of permanent magnets embedded in a disk-like support between a plurality of magnetic pole pieces of high-permeability material embedded in the support.

CONSTITUTION: A stator 12 is installed in a housing. Iron cores 12b of a rectangular parallelepiped are installed on the inside surface of its cylindrical iron core 12a at a constant interval. Wires 12c are wound around the iron cores 12b to form electromagnets, and the phases U, V and W are connected to a power supply. A rotor 13 is obtained by embedding a plurality of magnetic pole pieces in a polygonal support placed in the center of the housing. Each of the magnetic pole pieces is made of high-permeability soft magnetic iron and almost of a rectangular parallelepiped. It has a brim on the outside circumference and a fitting section on the inside circumference. A rod-shaped permanent magnet is fitted in each of the spaces between the support and the magnetic pole pieces. This makes it possible to effectively collect the lines of magnetic force from the permanent magnets, and to reduce the man-hours in the assembly of the rotor.



LEGAL STATUS

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